

Amendments to the Claims:

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) An articulated boom ~~comprising for a space~~
based antenna reflector system having an antenna reflector supported on said
boom; wherein:

said boom comprises a support arm ~~defining a number~~ having a
plurality of hingedly connected hinged joints; [[, the]]

said support arm being is adapted and arranged to carry [[an]] the
antenna reflector so that in use, the antenna reflector can move between a first,
stowed, position in which the reflector is nested within a predetermined volume
of a spacecraft; in folded condition and a second, deployed, position in which the
reflector is [[in]] deployed condition in space outside said predetermined volume;

said support arm includes a dog-leg portion that permits stowage of
said antenna reflector in said stowed position; and

said dog-leg portion is configured and positioned such that it extends at least partially along a circumference of the antenna reflector when said antenna reflector is in said stowed position.

2. (Cancelled)

3. (Cancelled)

4. (Cancelled)

5. (Currently Amended) [[An]] The articulated boom as claimed in claim [[4,]] 1, wherein at least one ~~or more~~ of said hinged ~~hingedly connected~~ joints comprises an articulated stepper motor harmonic drive unit.

6. (Currently Amended) [[An]] The articulated boom as claimed in claim [[5,]] 1, wherein at least one ~~or more~~ of said hinged ~~hingedly connected~~ joints comprises a spring-operated mechanical hinge.

7. (Cancelled)

8. (Cancelled)

9. (Cancelled)

10. (Currently Amended) [[An]] The articulated boom as claimed in claim [[9,]] 1, wherein the support arm is ~~configured to be~~ sufficiently long ~~so as~~ to carry an antenna reflector of ~~around~~ approximately 3.5 metres diameter with an associated focal length of ~~around~~ approximately 7 metres.

11. (Currently Amended) [[An]] The articulated boom as claimed in claim [[10,]] 1, wherein the hinged ~~hingedly connected~~ joints are bolted using metal ~~bracket means~~ brackets with a degree of flexibility to accommodate for changes in [[the]] material properties of the boom in response to temperature variations between +140°C and -180°C.

12. (Currently Amended) [[An]] The articulated boom as claimed in claim [[11,]] 1, wherein:

one end of the support arm is mounted to [[the]] an associated feed structure of the spacecraft; ~~vehiele~~ and

the opposing end of the support arm is mounted to the antenna reflector.

13. (Currently Amended) [[An]] The articulated boom as claimed in claim 12, wherein:

~~the reflector when~~ in stowed position, the antenna reflector is foldably mounted to a sidewall of the spacecraft ~~vehiele~~ on a plurality of hold-down points; and, ~~which~~

said hold-down points are operably released prior to deployment of the reflector.

14. (Currently Amended) [[An]] The articulated boom as claimed in claim 13, wherein said hold-down points are formed such as to provide a degree of compliance, such that ~~in a plurality of predetermined directions, permitting~~ the boom and the spacecraft structure do not impart ~~to avoid imparting~~ unwanted thermal expansion loads on each other.

15. (Currently Amended) A ~~space~~ spacecraft comprising:

~~vehiele incorporating into~~ at least one side thereof at least two booms of the type [[as]] claimed in claim [[14,]] 1; and

~~enabling~~ at least two antenna reflectors ~~to be deployed from said at least one~~ that are deployable on said booms from at least one side of the ~~space vehiele~~ spacecraft.

16. (Currently Amended) [[A]] The spacecraft ~~space vehiele~~ as claimed in claim 15, wherein support arms of the at least two booms are

positioned at a circumference of associated reflectors when in the stowed position, ~~[[such]]~~ so as to allow the reflectors to be stacked together within a space defined by an associated launch vehicle fairing.

17. (Currently Amended) A spacecraft ~~space vehicle~~ incorporating into at least one side thereof a hinged ~~hingedly-mounted~~ support structure including an antenna reflector with a boom of the type claimed as defined in claim ~~[[14.]]~~ 1.

18. (Currently Amended) ~~[[A]]~~ The ~~satellite or spacecraft~~ space vehicle as claimed in claim 17 wherein ~~[[the]]~~ an associated feed structure is mounted to a separately-formed floor of the space vehicle.

19. (Currently Amended) A spacecraft ~~space vehicle~~ incorporating into at least one side thereof ~~of its sides~~

(a) a first ~~hingedly-mounted~~ hinge-mounted support structure including an antenna reflector with a boom as ~~elaimed~~ defined in claim ~~[[14;]]~~ 1; and

(b) a second different ~~hingedly-mounted~~ hinge-mounted support structure for carrying a plurality of antenna reflectors.

20. (Currently Amended) A reflector system for space-based applications incorporating an antenna reflector with supporting boom as ~~elaimed~~ defined in claim ~~[[14.]]~~ 1.

21. (Currently Amended) An antenna structure incorporating a reflector system as ~~elaimed~~ defined in claim 20.

22. (Cancelled)

23. (Cancelled)

24. (Currently Amended) A method of stacking a plurality of deployable antenna reflectors in spacecraft, said method comprising:

providing a first antenna reflector with a first articulated boom having a support arm defining a number of ~~hingedly-connected~~ hinged joints, the arm being adapted and arranged to carry an antenna reflector so that in use, the reflector can move between a first stowed position in which the reflector is in folded condition and a second deployed position in which the reflector is in deployed condition;

moving said first antenna reflector to a first nesting position close to a sidewall of the spacecraft in such a manner that its supporting boom follows a circumference of the first antenna reflector along a first path;

providing a second antenna reflector with a second articulated boom which is substantially identical to the first articulated boom; and

moving said second antenna reflector to a second nesting position close to the sidewall of the spacecraft in such a manner that its supporting boom follows a circumference of the second antenna reflector along a second path such that the first and second reflectors are juxtaposed in a stacked relationship.

25. (Cancelled)

26. (New) The articulated boom as claimed in claim 1, wherein, in said stowed position, said dog-leg portion lies within a first plane that is substantially parallel to a second plane defined by said antenna reflector.

27. (New) The articulated boom as claimed in claim 26, wherein:

the dog-leg portion is coupled to the spacecraft by a hinged joint that provides for pivotal rotation of said dog-leg portion about a pivot axis; and

said pivotal axis is substantially parallel to said first plane.